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VENABLE LLP
P.O. BOX 34385
WASHINGTON, DC 20043-9998

EXAMINER	
SHECHTMAN, SEAN P	
ART UNIT	PAPER NUMBER
2121	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/585,125	FODOR ET AL.	
	Examiner	Art Unit	
	Sean P. Shechtman	2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 September 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19 and 21-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19 and 21-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 September 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. Objections withdrawn.

Claim Objections

2. Objection withdrawn.

Specification

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The specification fails to provide proper antecedent basis for any of the claimed modules of claims 14-18.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14 recites the limitation "the measured data" in line 12. There is insufficient antecedent basis for this limitation in the claim. It will be assumed that “the measured data” is “measured data”.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 14-18 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Although the claims are directed to a device comprising various modules, all of the modules could reasonably be interpreted by one of ordinary skill in the art, in light of the instant specification and claims (page 19, lines 16-23 and claim 19), to be software, such that the device comprising various modules is software, per se. Computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs, are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

6. Claims 19, 21, 22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claimed computer-readable medium can be interpreted to be in the form of a signal, such as a signal over a network

or the internet (see claims 21-22). Such signal claims are ineligible for patent protection because they do not fall within any of the four statutory classes of § 101.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 1-4, 7-9, 12-16, 18, 19, are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,535,129 to Keijser (hereinafter referred to as Keijser) in view of U.S. Pat. No. 4,736,305 to Watanabe (hereinafter referred to as Watanabe).

Referring to claims 1, 14, 19, Keijser teaches a method, device, program, for optimizing measurement and control of the flatness of a strip of rolled material (whole document; Col. 4, lines 49-61), comprising:

module for fusion or morphing a strip visualization with measured information (Fig., any phi function and feedback from flatness curve; OR, Fig. 1, any phi function and Col. 5, lines 31-41, stress distribution phi obtained by measurement),

module for creating a set (a set can be one or more) of reference strip models for known flatness fault types (Fig., flatness error f referenced in evaluation 3; Col. 5, lines 19-30, f1, f2...fn; see also par. 47 of the instant specification),

module for creating a set of space conversion matrices, which are known to correct the known flatness fault types by optimally qualifying actuator behavior during flatness control for the given flatness error type (Fig., Cs, Cb, Cf; Col. 6, lines 1-13),

module for choosing an associated actuator space conversion matrix (Fig., Cs, Cb, Cf associated with optimum control; Abstract; Col. 6, lines 14-40), and

module for optimizing the control with the space conversion matrix (Abstract).

2, 15, 16. The method according to claim 1, further comprising: making a mapping between measurement and control by associating to relevant flatness fault types a reference strip model and an actuator space conversion matrix (Col. 5, lines 42 – Col. 6. lines 13).

3. The method according to claim 1, further comprising: making an enhanced mapping between measurement and control by an actuator correction algorithm using morphed information (Col. 6, lines 30-39; Fig. elements 8, 10, 12).

4, 18. The method according to claim 1, further comprising: mapping each reference strip model to a corresponding vector space conversion matrix according to the flatness fault type (Col. 5, lines 42 – Col. 6. lines 13).

7. The method according to claim 1, further comprising: converting strip to a visualization format used for reference strip models (Fig. flatness curve; OR Fig. 1, any phi function and Col. 5, lines 31-41, stress distribution phi obtained by measurement).

8. The method according to claim 1, further comprising: having visual access to the strip by an operator (Col. 1, lines 40-64; Col. 5, lines 17-30).

9. The method according to claim 1, further comprising: comparing the reference strip with the strip visualization format (See Fig. flatness curve compared with flatness reference).

12, 13. The method according to claim 1, further comprising: morphing from the reference model to the measured data by adding a result of the mapping to the reference model (Fig., Col. 5, lines 42 – Col. 6. lines 13).

Keijser teaches all of the limitations set forth above, and further teaches module for visualizing the strip, and module for determining a relevant flatness fault type by comparing the visualization to a flatness reference (See Fig. flatness curve compared with flatness reference; Fig., Col. 5, lines 15-30; Col. 1, lines 40-64; Col. 4, lines 62 – Col. 5, line 6; see also the instant specification). The examiner respectfully submits that the module for visualizing the strip, and module for determining a relevant flatness fault type by comparing the visualization to one or more reference strip models, as claimed, is not required to be related with the rest of the claimed elements. However, Keijser fails to teach module for determining a relevant flatness fault type by comparing the visualization to a reference strip model.

However, Watanabe teaches module for visualizing the strip, and module for determining a relevant flatness fault type by comparing the visualization to a reference strip model (Fig. 4, sheet crown or flatness % compared with target value line or allowable bounds lines or any line).

Keijser and Watanabe are analogous art because they are from the same field of endeavor, rolling.

All the components/elements of the method, device, program, are known in Keijser and Watanabe. The only difference is the combination of the “old elements” into

a single method, device, program. Thus, it would have been obvious to one of ordinary skill in the art at the time that the invention was made to combine the relevant flatness fault type determination taught by Watanabe with the method, device, program taught by Keijser, since the operation of the module for visualizing the strip, and module for determining a relevant flatness fault type by comparing the visualization to a reference strip model, is in no way dependent on the operation of the other components/elements of the method, device, program, and the relevant flatness fault type determination could be used in combination with the other components/elements of the method, device, program to achieve the predictable results of determining a relevant flatness fault type by comparing the visualization to a reference strip model.

Or, because both references teach determining a relevant flatness fault type, it would have obvious to one of ordinary skill in the art at the time that the invention was made to substitute one determination of a relevant flatness fault type for the other to achieve the predictable result of determining a relevant flatness fault type by comparing the visualization to a reference strip model.

8. Claims 5, 10, are rejected under 35 U.S.C. 103(a) as being unpatentable over Keijser in view of Watanabe as applied to the claims above, and further in view of U.S. Pat. No. 6,411,862 to Hazama et al (hereinafter referred to as Hazama).

Referring to claim 10, Keijser teaches the comparison is carried out automatically (See Fig. flatness curve compared with flatness reference; Col. 4, lines 62 – Col. 5, line 6).

Referring to claims 5, 10, Keijser in view of Watanabe teaches all of the limitations set forth above, however, fails to teach selecting a reference strip model by comparing available reference strip models with the strip; manually tuning an automatic comparison.

However, Hazama teaches selecting a reference strip model by comparing available reference strip models with the strip (Col. 33, lines 5-30; Col. 86, lines 41-43); manually tuning an automatic comparison (Col. 85, lines 1-67; Col. 23, lines 19- Col. 24, line 65).

Keijser in view of Watanabe and Hazama are analogous art because they are from the same field of endeavor, machining.

At time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Hazama with Keijser in view of Watanabe because Hazama teaches logically storing both the design and manufacturing information for each customer's order, so that it may be easily accessed and retrieved from any area in the factory. Furthermore, Hazama teaches searching previous job information, including design and manufacturing information, based on various search criteria. The search criteria may include, for example, the basic features and attributes of the sheet metal component to be manufactured, so that previous job information relating to an identical or similar part can be utilized to reduce the overall manufacturing time of future jobs. Furthermore Hazama teaches replacing the traditional paper job or work sheet, associated with each customer's order, with an electronic job sheet that can be

instantaneously accessed from any location in the factory. The electronic job sheet may be displayed at any location and include critical design and manufacturing information, including the 2-D and/or 3-D model view of the component, the tooling selection, the optimum bending sequence, the required staging information, and the bar code or identification number associated with the job. The electronic job sheet may also include an audio and/or video portion recorded by a bending operator to indicate, for example, any special instructions or procedures that may be helpful when running the same job or a similar job again in the future (Col. 3, line 66 – Col. 9, line 60).

9. Claims 6, 23, are rejected under 35 U.S.C. 103(a) as being unpatentable over Keijser in view of Watanabe in view of Hazama as applied to the claims above, and further in view of U.S. Pat. No. 4,551,805 to Shimoda et al (hereinafter referred to as Shimoda).

Referring to claims 6, 23, Keijser in view of Watanabe in view of Hazama teaches all of the limitations set forth above, however, fails to teach enhancing the measured data by interpolating the reference model with measured flatness data; wherein the measured data is enhanced by using morphing.

However, Shimoda teaches enhancing the measured data by interpolating the reference model with measured flatness data; wherein the measured data is enhanced by using morphing (Abstract; Fig. 2, Fig. 4, Fig. 6; Col. 4, lines 12 – Col. 6, lines 24).

Keijser in view of Watanabe in view of Hazama and Shimoda are analogous art because they are from the same field of endeavor, machining.

At time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Shimoda with Keijser in view of Watanabe in view of Hazama because Shimoda teaches the recognition of configuration defect pattern is facilitated and the correspondence between the control actuators and the configuration defect pattern becomes clear, the control becomes both simple and effective and the local configuration defects can be clearly separated, resulting in a remarkable increase in the configuration control of strip material (Col. 1, lines 50-68).

10. Claims 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keijser in view of Watanabe as applied to the claims above, and further in view of U.S. Pat. No. 5,287,433 to Prunotto et al (hereinafter referred to as Prunotto).

Referring to claim 11, Keijser in view of Watanabe teaches all of the limitations set forth above, however, fails to teach synchronizing measured data with video samples and with a currently performed optimization algorithm.

However, Prunotto teaches synchronizing measured data with video samples and with a currently performed optimization algorithm (Col. 27, lines 12-26).

Keijser in view of Watanabe and Prunotto are analogous art because they are from the same field of endeavor, machining.

At time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Prunotto with Keijser in view of Watanabe because Prunotto teaches activating an acoustic alarm signal so that the operator can arrange for rectification of the assembly of the bending installation (Col. 27, line 12-26).

Furthermore, Prunotto teaches after a sheet metal bending installation similar to a specimen installation has been assembled, the system of the present invention is able, by detecting of the coordinates of the position of the manipulator device in three predetermined configurations, and by comparing them with the corresponding coordinates of analogous configurations on the specimen system, to test if the configuration of the assembled installation is correct, and of warning, the operator, and moreover, in the case of correction of this assembled configuration, the system of the present invention is able automatically to adapt the sequence of movement command and control signals dimensionally for this manipulator device, which signals were defined on the specimen installation, taking into account the small dimensional differences which inevitably exist between the two installations. In this way, therefore, it is not necessary to have to define a new sequence of command and control signals (for an already defined bending cycle) for each new installation fitted, and the sequence already memorised and defined on the specimen installation can be utilised, with evident advantages of reduction in preparation times for this already defined bending cycles for new installations (Col. 31, lines 38 – Col. 32, line 15).

11. Claims 21, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keijser in view of Watanabe as applied to the claims above, and further in view of U.S. Pat. No. 6,463,352 to Tadokoro et al (hereinafter referred to as Tadokoro).

Referring to claims 21, 22, Keijser in view of Watanabe teaches all of the limitations set forth above, however, fails to teach wherein the computer program code

means is for carry out the further step of at least partially providing the computer program through the internet.

However, Tadokoro teaches the computer program code means is for carry out the further step of at least partially providing the computer program through the internet (Col. 41, lines 16-47).

Keijser in view of Watanabe and Tadokoro are analogous art because they are from the same field of endeavor, machining.

At time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Tadokoro with Keijser in view of Watanabe because Tadokoro teaches the user interface provided at each browser station is flexible and changes according to access level and served data. In this manner, for each facility employing at least one (usually several) cutting machines, the system permits the monitoring and process management of work status and work flow from anywhere within the facility but also prevents inappropriate access. Since the same protocol is used for the facility system and the Internet at large, communications and -access are provided at all levels (facility-wide communications as well as extra-facility communications from any client browser at which a privileged user logs in).

Response to Arguments

12. Applicant's arguments filed 9/2/08 have been fully considered but they are not persuasive.

Applicant argues that claims 14-18 are not directed to software per se, since the visualization module could include any number of physical devices for visualizing the

strip. The examiner respectfully disagrees. The instant specification clearly teaches the invention may be performed under the control of a set of computer instructions in page 19, lines 16-23, and claim 19 further specifies the invention (including the visualizing of the strip) can be performed by a program. Furthermore, the examiner respectfully submits that applicant fails to specify where "any number of physical devices for visualizing the strip" can be found in the instant specification. Computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs, are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Applicant argues that claim 19 recites a computer readable medium and therefore recites statutory subject matter. The examiner respectfully disagrees. The claimed computer-readable medium can be interpreted to be in the form of a signal, such as a signal over a network or the internet (see claims 21-22). Such signal claims are ineligible for patent protection because they do not fall within any of the four statutory classes of § 101.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a camera) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant argues that both Keijser and Watanabe fail to teach visualizing the strip. The examiner respectfully disagrees. Visualizing is broad in view of the instant specification and claims and the knowledge of one of ordinary skill in the art.

The instant specification and claims teaches the following description of the visualizing:

"The visual information can be generated also from mathematical models" (Page 14, lines 24-25).

"The present invention applies to any type of flatness measurement that is discrete in at least one dimension (along strip width, strip length or both), such as measurement device or contactless measurement devices with discrete sampling" (page 10, lines 11-16 of the instant specification).

"I is a device sensing the actual strip and converting this information into a format that allows comparison with reference strip models. This can be a measurement device such as visual camera, infrared camera or other devices capable of sensing strip relevant information" (page 13, lines 26-32 of the instant specification).

"While the present invention has been described in terms of the preferred embodiments, the invention is not limited thereto, but can be embodied in various ways

without departing from the principle of the invention as defined in the claims" (page 19, lines 25-29 of the instant specification).

"19. A computer program product, comprising: a computer readable medium; and computer program code means recorded on the computer readable medium and executable by a processor for carrying out the steps of … visualizing the strip" (Claim 19 of the instant claims).

Keijser teaches and shows determining a flatness curve, for example, by means of a stressometer and preprogrammed computer, wherein the determining involves a measuring roll with approximately 50 measuring points across the strip and providing a stress distribution of the strip along the measuring roll (Fig., Col. 5, lines 15-30; Col. 1, lines 40-64; Col. 4, lines 62 – Col. 5, line 6). The examiner respectfully submits that the determining of a flatness curve is visualizing the strip in view of the broad description of the visualizing of the strip and the knowledge of one of ordinary skill in the art, wherein the visualizing of the strip can be generating from mathematical models and/or determined by other devices capable of sensing strip relevant strip information and/or can be embodied in various ways without departing from the principle of the invention as defined in the claims and/or carried out by a program.

Watanabe also teaches and shows Figs. 4a-4d show sheet crown or flatness percentage for each stand of the rolling mill. The examiner respectfully submits that the sheet crown or flatness percentage for each stand of the rolling mill shown is visualizing the strip in view of the broad description of the visualizing of the strip and the knowledge of one of ordinary skill in the art, wherein the visualizing of the strip can be generating

from mathematical models and/or determined by other devices capable of sensing strip relevant strip information and/or can be embodied in various ways without departing from the principle of the invention as defined in the claims and/or carried out by a program.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean P. Shechtman whose telephone number is (571) 272-3754. The examiner can normally be reached on 9:30am-6:00pm, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SPS

Sean P. Shechtman

October 6, 2008

/Sean P. Shechtman/
Primary Examiner, Art Unit 2121